THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

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The Observer.—No. 5.

THE WHEAT FLY.

This favorite caption for numerous articles in the popular periodicals of the day, affords a prolific theme for many a scribbler who only writes to relieve the troublesome twinges of his *cacœthes scribbendi*. Almost every farmer will say that he has often seen the wheat fly; yet, probably, not one in a thousand really knows what it is. Their observations have been so imperfect, their acquaintance with the insect race is so limited, that almost every small fly, seen in autumn—whether the fourth, or the fortieth of an inch long, whether black, blue, or yellow; whether it flies with two wings, or with four—is a wheat fly. These remarks are not intended to cast any reflection on the good sense of my readers, but to indicate the necessity which exists, for more careful and minute investigation. It must be admitted, that much of what has been written on this insect, to say the least of it, is of a very doubtful character.

In order to treat it understandingly, I will inquire,

1. What is the Wheat Fly? and
2. What are its habits?

When these inquiries are satisfactorily answered, and not till then, we may hope to arrive at the best practical means of destroying the enemy, or of countervailing its effects.

What is the Wheat Fly? This insect, commonly called the *Hessian fly*, from its supposed native place, does not appear to be known in the land of Hesse; nor, indeed, in any other part of Europe. We must, therefore, look to American naturalists for what is known of its entomological character. Notwithstanding that the wheat fly seems unknown in Europe, yet there is at least plausibility, if not truth, in the opinion that it was derived from thence. Thus, if it was not known to exist in our country previous to the revolutionary war—if a quantity of straw was, at that time, imported from Germany for the use of the British troops lying at New York—and if its ravages were soon after observed in that part of the country—a strong presumption is raised in favor of its transatlantic origin. *See Journ. Acad. Nat. Sciences*, vol. i. p. 45. *Farmers' Cabinet*, p. 24.

I have availed myself of the labors of those who have observed and described the wheat fly, and determined its place in the systems. From these sources, and from my own observation, I have drawn up the following description:

Class. Insecta.—Insects.
Order. Diptera.—Having two wings.
Genus. Tipula of Linnæus.
Chironomus of Fabricius.
Trichocera of Lamarck.
Cecydomyia of Latrielle.

Cecydomyia. "Antennæ filliform, joints subequal, globular, hairy;—proboscis salient; wings incumbent, horizontal."

C. destructor. "Head and thorax black;—wings black, fulvous at base;—feet pale, covered with black hairs."—*Say.*

Larva. *Body* whitish, a little tapering to the tail, which is acutely pointed;—*feet*, none, or mere rudimentary tubercles;—*mouth*, a sucker;—incapable of progression.

Pupa. General *form* similar to that of the full grown larva;—*color*, reddish brown;—entirely inactive.

Perfect state. *Body*, black;—*antennæ*, a little tapering, about as long as the body, in the male shorter, in the female longer;—*thorax*, large, protuberant;—*wings*, nearly

colorless,* rounded at tip, reaching beyond the abdomen;—*feet* long and slender;—*abdomen* slender, in the female, rendered acute and extensive by the protrusion of the oviduct. Length, about three-twentieths of an inch.

Under the microscope, the *body* appears hairy; the *joints of the antennæ* are verticillate with short hairs, especially in the female; in the male sex, the joints are separated by a central fine thread, in the female, approximated; the *edges of the wings* are finely fringed with short dark colored hairs.

I would advise those who may not already have done so, to procure the fly for examination. This may easily be done at the proper season, (when it is in the pupa or flaxseed state, the beginning of the sixth month,) by pulling up the infected plant and placing the root and part of the stem in a glass jar tied over with gauze to prevent their escape.

What are the habits of the Wheat Fly? The habits of many animals are more concealed from observation, than the animals themselves. It is so in the present instance. Enough, however, has been observed of the habits of the wheat fly, to afford data, from which its history may be inferred with tolerable certainty. It is not only instinctively led to seek the wheat plant as the natural food for its young; but even to select the vagina, or sheath of the lowest blade—rarely the next contiguous one—for its nidus. Later in the season, when the plant is in stalk, and the lower leaves have decayed, we may sometimes find the larva, or pupa, some distance from the ground. In this way, the pupa might be conveyed to a considerable distance, even across the Atlantic. It sometimes affects other grain, than wheat, such as barley, oats and rye, perhaps timothy and some of the other grasses; but it is so seldom observed, except in wheat, as to indicate necessity rather than choice, in the selection of any other plant. Say suggests that the female deposits the egg in the sheath, by thrusting her elongated oviduct between the blade and the stem, but as the larva does not appear capable of moving, and is mostly found near the bottom of the sheath, I think it more probable that she *pierces through the sheath*, and places the egg where we observe the larva.

Some acute observers believe that the fly is only produced at certain annual periods, for example, the egg laid in the fall passes through the larva state and becomes a pupa before winter, in which condition it remains till spring or early summer, when it escapes a perfect fly, but does not deposit its eggs until the next fall. However, this may accord with what is known of many other insects, I think it is contrary to observation in the present case. Sometimes when very few insects can be found in the fall wheat, they become quite numerous in the spring. I have never seen the larvæ in early spring—only pupæ—yet later in the season, larvæ become very common. The eggs of these were probably deposited by flies which proceeded from the winter pupæ. The spring larvæ pass through the pupa state, and become flies between the first and middle of the sixth month. Without any observations on the insect, we would naturally suppose the larva state more destructive to the crop than the pupa, because it then derives some nourishment from the plant; yet, its greatest ravages are generally in the spring.

All the observations which I have been able to make, have confirmed me in the opinion, that they deposit their eggs at various seasons of the year, subject to be influenced by circumstances; and that the duration of the several stages of their existence, depends upon season and temperature. In warm weather, a few months, or even weeks, may be sufficient to produce the fly from the egg; but the progress of its metamorphoses will be retarded, or entirely arrested by cold weather. Last spring the flies were very numerous in my wheat field when I sowed clover seed, in the beginning of the fourth month. They could be seen to rise at almost every cast of seed, and would fly forward and settle down again, in the same way as grasshoppers are observed to do. These had, probably, come out of the winter pupæ in the opening spring and were about to deposit the eggs, which, after destroying the crop, produced other flies in the sixth month. This would allow a period of about two months for the completion of their several changes.

When the eggs are laid in early autumn, the insects will become pupæ before winter, ready to emerge early in the spring and prepare for new devastations in the way I have just mentioned.

Observations are still wanting to determine whether the larvæ of eggs laid later in the fall, can endure the winter in that state, or whether the egg can remain and hatch in the spring. I think it probable, that neither the egg nor the larva can survive the frosts of winter, unless protected from intense cold by a mantle of snow, as was the case in the winter of 1835-6. The autumnal prospect exceeded any thing we had for a long time witnessed; the dreadful reverse at the ensuing harvest, will be long remembered. The fall was favorable to the growth of wheat, but it was also favorable to the propagation of its greatest enemy—the fly. Its ravages were scarcely perceptible in the fall, yet it was

*In the foregoing specific description, copied from Say, the wings are described "black;"—in all my specimens they are, as I have described them, *nearly colorless and transparent.*

undoubtedly there. Whether, in the several states of egg, larva and pupa, or only of the latter, I am not prepared to say. The winter was peculiar. Snow fell in abundance before severe frost set in, so that during a winter of intense cold, the ground was scarcely frozen. The fly was so far preserved, from the circumstances of the season, as to become numerous to excess in the spring crop. Many pupæ, undoubtedly, perish when exposed to the rigors of a severe winter, which would be protected under the snow; and this may account sufficiently for their abundance. I am, however, inclined to believe, that they did pass the winter in the egg, or larva state, or both, by having several times in the spring, detected both larvæ and pupæ in the same plant. The winter pupæ would come out and deposit their eggs first. Then the larvæ, and still later the eggs, producing the appearances noticed. The same, however, might be occasioned by the eggs being laid at different times in the spring.

There is yet room for many interesting observations on this subject.

New Garden, 3d mo. 29, 1837.

For the Farmers' Cabinet.

Agricultural Implements.

NO. III.

THE DRILL CORN PLANTER.

This implement is constructed so as to mark out the ground, drop the corn, and cover it by the power of a horse under the direction of a man who guides the horse and machine with lines and handles, similar to those used when ploughing.

The horse and handles are attached to a beam or to the hopper which holds the corn. Through this hopper, a horizontal axle passes, with wheels on each end, which move on the ground and turn with the axle, or one of them may turn on the axle and the other with it. The hopper or beam is made sufficiently strong to receive one of the sharp harrow (or cultivator,) teeth, described under the article *Harrow*, in a former communication.

This tooth is for the purpose of making an opening in the ground to receive the corn, and the turning axle serves to carry the corn from the hopper and deposit it at regular distances asunder, and has regular holes (or depressions,) formed in the periphery, each sufficiently large to hold *one* grain of corn, but not *two*, and at such distance asunder as to deposit the corn at suitable distances apart. The other parts of the periphery of the axle that turns within the hopper, are sufficiently near to it to prevent the passage of any grain. After the grain is carried from the hopper as aforesaid, it drops from the axle into a tube which conducts it into the opening in the ground, immediately behind the harrow tooth, and may be covered a sufficient depth by means of a chain, with its two ends attached to the machine, and the middle extending behind in a kind of bow over the edges of the opening. The wheels, beam handles and axle, are made of such dimensions and materials as may be required for the distance asunder which the corn is planted and the kind of soil to be acted on, &c. Experience will be the best guide for this.

Corn planted in rows, lying in a northern and southern direction, so as to admit the rays of the sun to the ground, is considered the best position, and experienced farmers say, that corn so planted with stalks equidistant and at suitable intervals asunder, ten per cent. more corn can be produced on a given quantity of land, than where several grains are planted in a hill and the corn worked in two directions, at right angles to each other.

By the use of the harrow teeth, or plough mould board, constructed on the principles described in my former communications, under the articles *Plough* and *Harrow* respectively, corn may be cultivated more easily when planted as aforesaid than in hills, where several stalks are together, because the space between the stalks in the hills, requires hand labor to destroy grass or other substances injurious to the corn; whereas, the plough and harrow teeth will destroy these, or prevent them from growing where one stalk is at regular distances from another, and only in a single row. The plough or harrow teeth may be made of such dimensions, and such number used at the same time as circumstances may require. Experience will, in this case also, be the best guide. In some cases, all may be used to advantage at the same time; in others, only one will be most proper. The frame may be so formed, that the different kinds of harrow teeth or the ploughs may be attached or removed at pleasure. Where farmers do not choose to incur the expense of a drill, and would at the same time wish to plant their corn so as for one stalk to be at the most proper distance from another, they would probably find it to their interest to make a trial, and drop the corn by hand and cover it by a chain as above directed, or with a harrow. Perhaps a portion of the injury usually sustained from the cut worm, might be prevented by planting more corn than is required to cultivate to maturity; this would be allowing a portion for the worm and another portion to grow to maturity, and if a less quantity should be destroyed than might be calculated on, the superfluous stalks might be destroyed after all apprehension of danger from the worm has ceased.

Chester Co., Pa., 23d March, 1837.

NO. IV.

DIRECTIONS RESPECTING THE ROLLER.

This article is not, probably, appreciated by every one as it deserves to be.

All grass lands where the frost has, during the preceding winter, raised part of the roots out of the ground, require the roller to pass over them in the spring, and many persons whose testimony is entitled to great respect, recommend its use upon all land in the spring, where grain has previously been sown or corn planted, for the purpose of breaking the clods, preventing injury from extreme dry weather, and causing the grain to be collected in harvest with less difficulty.

Rollers are sometimes made of one piece, with a fixed gudgeon in the centre of each end which turns in a frame, to which the tongue or shafts are attached. At other times it is formed in two pieces, with a hole through the centre of each, to turn upon a fixed axle or shaft; this allows the ends of each to rise and fall, independent of the other, and press upon a greater surface of ground, than where one is of the same length as these two parts; and when turning the team, one of them turns one way, and the other in a contrary direction on the axle or shaft, or one is stationary while the other turns, by which means the ground is not so liable to be forced up in a ridge before the roller: this is considered an improvement, still there are objections made to it. In the first place, the wood turning on the fixed axle or shaft, is apt to wear rapidly, and to have them boxed with iron, is attended with expense; the ends in contact must be made conical, otherwise the other ends will not rise and fall with the irregularity of the ground; and when they rise, or indeed at all times when the centre of the two are in the same line, there will be a strip or gore of land between them which is not acted on by either. The following described plan would probably obviate both these objections. Let the roller be composed of three parts, each to have gudgeons confined to the centre of the ends which turn in a frame; the centre section in advance or in the rear, so as to extend a short distance over the ground, passed also by a small portion of the other two; this would probably combine the advantages of both the other plans without the disadvantages. The frame should be so constructed that the different portions of the roller would change their relative position, and by these means, act upon an irregular surface; several joints or hinges in the frame permitting a vertical motion in each roller independent of the others, and also a joint, allowing a vertical motion in the tongue or shafts, so as to change its relative position with the frame, will cause the whole to operate well upon an irregular surface, and leave no part of the ground but what will be acted on.

As it is a matter of considerable importance to have the grass roots, particularly clover, forced back into the ground as near a contrary direction as possible from that which the frost may have raised them out of it; a roller of considerable diameter is, therefore, recommended, which must, however, be of considerable weight, otherwise it will not make so great an impression on the ground as one of smaller diameter, on account of its pressure on the ground covering a greater amount of surface at the same time.

A roller made in this form, entirely of wood, except the hinges and gudgeons, would not be expensive, and if kept in a dry place (as all implements should be,) when not in use, would last a long time.

Chester county, Pa., April 7, 1837.

To the Editor of the Farmers' Cabinet.

The writer of this has seen an article taken from the Cincinnati Gazette, stating that oil is made from maize, (or Indian corn,) of which a bushel yields one gallon, price fifty cents, burns clear and without odor, and is not congealable at five degrees Fahrenheit. The extraction of the oil does not diminish the alcohol, which may afterwards be distilled from the corn thus used.

[Will some one who is acquainted with the process, inform the public?]

From a Correspondent.

I observe a caution in No. 17 of the Farmers' Cabinet, signed "C.," stating that the Chinese Mulberry, *Morus Multicaulis*, cannot be produced from seed. I believe a theory held by some, and entitled to great respect is, that vegetables, like animals, are limited in the duration of life, and *that a graft or slip will not outlive the parent tree.* If both of these opinions be correct, the person who purchases seed, or he who purchases cuttings from trees, near the close of their existence, might find the preparation for producing silk, a losing business. *How is this?* I am not fully acquainted on this subject, and ask for information.

If you would add a lustre to all your accomplishments, study a modest behavior. To excel in any thing valuable is great; but to be above conceit on account of one's accomplishments is greater. Consider, if you have rich natural gifts, you owe them to the Divine bounty. If you have improved your understanding and studied virtue, you have only done your duty; and thus there seems little reason for vanity.

Making Cheese.

As practiced in one of the most eminent Dairies in New England.

Add the night's milk with the morning's, and heat it gently over a fire until well warm, then put it in a tub or vat with sufficiently prepared annatto to give it a handsome yellow color. Put rennet sufficient to make it curd in 25 minutes; when curded, take a wooden knife or sword and chequer it all into squares to the bottom; let it stand from 15 to 20 minutes, or until the whey appears above the curd; break it up carefully, with the hands in such a manner as not to bruise or break the pieces of curd; next put a clean strainer on top of the curd so as the whey may arise on top, and lade it off with a dish or dipper; then put a cheese strainer in a cheese basket over a tub, and carefully remove the curd and remaining whey into it, and cut it into slices with a thin skimmer, until the whey has mostly drained out; then bring the corners of the strainer together and twist them, so as to bring the curd in a solid mass, and put the twisted corners down in the basket, and a clean board about one foot square on the top of it, on which put about 20 weight, in order to press out the whey. After remaining about 15 minutes, the curd is to be cut in pieces about one inch square, and put back again with the weight on, and remain from ten to fifteen minutes, and then cut as last stated, and put back again, and so repeated from six to ten times, or until the whey has entirely done dripping from it; after which take it out and cut in pieces of about two inches square, put in a wooden bowl and chop with a chopping knife, until the pieces are the size of Indian corn. The next is scalding the curd, which is done by putting it in the strainer and putting in the kettle of whey heated to blood warmth, for if the whey is too hot it will ruin the cheese, and make it dry and hard; while in the whey it must be stirred with the hand until the whole is equally heated; then it is taken out and put in a cheese basket over a tub, and clean fine salt thoroughly mixed, to give it a high salt flavor, and let it stand until hardly blood-warm, then the corners of the strainer are twisted together as before, and put in the hoop and pressed, in this instance, with a weight of 100 pounds to every 10 of cheese, to remain about half an hour, taken out and turned and re-placed in the press, and add about one-third to the weight—then let it remain three hours. Then take it out and put it in a fine clean linen cloth, perfectly smooth, and no wrinkles in it; put again in the press and press forty-eight hours, being taken out and turned once during the time. At this pressing about one-third additional weight must be added. It must be then taken out, oiled and put on the shelf, where it must be turned, rubbed and oiled at least every twenty-four hours. From long experience, I have found it the best method of making cheese.—*Tennessee Far.*] S.

Mulberry.

A dry, sterile sand is unsuitable; and a shallow soil on a foundation of clay produces leaves of bad quality. In low rich grounds, and extensive plains or prairies, near ponds and in the valleys of rivers, the mulberry tree indeed grows most vigorously, yet the leaves being more watery, though voraciously devoured, they prolong the labors of the insect by inducing weakness, and injure the quality of the produce. These grounds are alike exposed to the destructive frosts of winter and of summer: the moisture of the atmosphere in such situations causes the leaves to become spotted and to mildew, and the leaves thus infected, if given to the insects, are the sure sources of disease and of death.

Sunny expositions and the declivities of hills, those especially which slope to the south east or west. The cocoons of mountainous countries are deemed superior to those of the plains; although not so large, they are usually of a whiter color. Plant the mulberry tree on the high uplands, and on the hills, for here they are neither exposed to suffer from the early and the latter frosts, nor are the leaves liable to become spotted or diseased from the mildew; and from these combined causes, the growth of the tree will be consequently prolonged for a double length of time.

Prepare the soil by suitable nutriment, to the depth of eighteen inches beneath the tree, and to a proper distance around. The roots of the mulberry tree strike downwards; other plants may therefore be profitably cultivated beneath its shade, which is not deemed pernicious, the whole ground being kept as a garden during the first years.

The climate of the countries bordering on the great northern arteries or rivers is in some degree unfavorable. The winds, which, unobstructed, follow almost invariably the geneal course of the valleys of these rivers, bring down alternately from high northern regions, and from other climes, a degree of cold, during winter, the most intense and destructive. On the best authority I am assured that the pear, and particuarly the peach and the cherry, have during the last winters suffered partial destruction in the valley of the Connecticut, as far south as the country around the city of Hartford, and even still farther downwards and towards the sea. Even far below the city of Albany, on the Hudson or North river

the cherry tree particularly, and many other trees which are equally as hardy, and especially during all the period of their younger years, are, as I am assured, extremely liable to suffer death during winter, from the same destructive climate and causes.

The proper soils for the mulberry tree are "dry sandy, or stony." And trees growing on dry, sandy, or stony soils, and situated on the open plains, and on hills the most exposed to cold winds, will be found to suffer least of all from the destructive frosts of autumn and of winter. With all authors I must agree in recommending a soil least of all a cold, moist, and heavy soil on a clay foundation, or even a very rich soil; a dry soil on a friable subsoil, on gentle elevations or declivities, being the most suitable of all for the mulberry from China.—*Kenrick.*

Chinese Mulberry, Morus Multicaulis.

The immense quantities of this tree, now disseminated through every part of the Union, from the different nurseries, will undoubtedly serve to test thoroughly its good or bad qualities. Its hardihood will also be fairly proved by the present winter, which so far at least, may be considered a season of the ordinary severity. For ourselves, we have no doubt that the Morus Multicaulis will become perfectly naturalized in every part of the Union south of forty-two degrees latitude, and that the facility of silk-rearing would be wonderfully increased by it. The leaves being of very large size, the trouble of gathering a given weight is greatly diminished, and there is every reason to believe that two crops of silk may be reared upon them in a single season. The French silk growers now plant the Morus Multicaulis entirely in rows or hedges to be kept dwarf by cutting them down to within one, two or three feet of the ground, annually. The advantages of this method are—perfect hardihood of the plants—facility in gathering—and enormous weight of foliage from a small surface. In addition to this, a crop of silk worms may be fed on the leaves from the cuttings of the Chinese Mulberry of a single season's growth, instead, as in the case of the old Italian variety, of waiting until the tree attained considerable size before plucking the foliage.—*Boston Magazine of Horticulture.*

Value of Corn Stalks as Provender.

No one who may not have essayed an experiment to that effect, can form any idea of the vast amount which may be saved by the practice of a system of enlightened economy on a farm. Nor can he form any just estimate of the valuable purposes to which many things which are cast away as almost entirely useless, may be applied. We were very forcibly struck with the truth of these propositions a few days since, on seeing the fine condition of a *Devon cow*, that we purchased for a gentleman in South Carolina, and which had been subsisted during the whole of the past winter on *corn stalks* and *ruta baga*. Ninety out of a hundred farmers, throw their corn stalks into their barn yards, to be trodden under foot by their cattle, and the custom has become so universal that any one who should deviate from the rule would, in many neighborhoods, be looked upon as an innovator, who had sinned beyond the saving influence of repentance. When an individual, however, is found possessing the moral courage to rise superior to those prejudices which have been hallowed by time, they deserve not only the full fruition of the profits and advantages of their improvements, but are entitled to the thanks of the community. The cow in question, we bought of Mr. *Richard Caton*, and on inquiry as to her *keep* through the winter, learned that she, together with some 60 or 70 others, of which his beautiful *herd* of Devons consists, had been exclusively fed on the articles we have before named. Heretofore they have, each winter, been generously served with timothy, or clover hay, and Swedish Turneps; but with a view of testing the value of the corn stalks as a provender for cattle, and of being thereby enabled to sell his hay, he cut his stalks, the which, together with turneps, he submitted to the action of steam, and has had the gratification to find his most sanguine expectations more than realized. His stock has not only eaten their new fare with avidity, but have thriven well, having come through the winter in high health and condition, and are now in as good order as the majority of beef cattle. The Devons it is true are a thrifty race, easily kept, and will maintain flesh upon less feed than almost any other breed; but it is equally true, that the process of steaming restores so much of the saccharine matter to the stalks, renders them so easy of digestion, as to make them at once as palatable as they are nutritious. Hence there can be no doubt of the great economy in this disposition of them, because, besides returning to the earth an equal portion of manure, they serve the two fold purpose of substituting other and more saleable provender, and of sustaining stock fully as well, if not better than the best hay, be the kind whatever it may.

Let us see how far an acre of stalks will go. If this quantity of ground in corn will yield *one ton* of fodder and tops, we set it down as a demonstrable fact, that it will give *two* tons of stalks; so that any given quantity of land will furnish a hundred per cent. more of the latter than the former.

If it should be asserted that the *trouble* of cutting the stalks is an objection to their use, we would remark that there are always a sufficient number of inclement days throughout the winter, when hands cannot be occupied out of doors, to perform all the labor requisite to prepare them, without its bearing in the least as a tax upon time. Of the expense of a cutting box, we will not speak, as no farmer or planter, without detriment to his interest can be without one, and should it be said that *steaming* is an onerous preparation, and that the fixtures are costly, we would reply, that it is neither one nor the other. An ordinary sized pot, fitted up in a furnace, with sufficient number of oblong boxes, with tight covers, to hold the requisite quantity of provender are all the fixtures that re necessary; 40 gallons of boiling water poured upon half the number of bushels of cut stalks, would in one hour cook and render them fit for use. Surely then, there is no individual worthy of pursuing the noble calling of a cultivator of the earth, who would maintain such objections to the impairment of his real and substantial interests.—*Baltimore Farmer and Gardener.*

A Corn Meal Rusk.

Among the many delicacies in the form of bread, which render the enjoyment of breakfast so acceptable, we know of none more deserving of notice than the one prepared according to the following recipe:

Take 6 cupsful of corn meal, 4 of wheat flour, 2 cupsful of molasses, and 2 tablespoonsful of *sal araetus*, mix the whole together, and knead it into dough; then make two cakes; bake them as you would pone, for three fourths of an hour, and you will have one of the most grateful descriptions of bread that ever graced the table.—*ib.*

Carrot Field Culture.

We had a conversation a few days since with a *Yankee Farmer*, on the above subject, and being pleased with the course of his remarks, we prevailed on him to commit them to writing, in the hope that as the season is now approaching when this fine vegetable may be sown, we might, by bringing the topic to the notice of our readers, induce some of them to try the experiment of raising a crop for feed for their milch cows. The *Parsnep* too, should command attention; the same mode of culture will serve for them as for the carrot, with these exceptions—that the drills should be about 18 inches apart and the plants stand about 4 inches asunder. Thus planted in the month of April, in suitable soil, manured with well rotted manure, or a compost of spent ashes and mould, kept clean and hoed three times, they would yield from 500 to 1,000 bushels of roots to the acre, which might be left in the ground all winter to be dug up as wanted for feeding.

To those who desire to have *butter* in winter, possessing all the virtues of that article made from cows fed on *May* pastures, it will be only necessary to say that by a very little trouble they may realize their wishes.

The communication alluded to above will be found subjoined.

"The carrot flourishes best on a loam or sandy soil. The ground should be prepared by ploughing very fine to the depth of ten or twelve inches, fine manure, in quantity sufficient for common crops should be ploughed in, and the ground harrowed merely sufficient to level it, the seed should be sown in drills from twelve to fourteen inches apart; a machine made for the purpose is the best for sowing: four or five plants to a foot is sufficient to be left to come to maturity; a good day for planting corn is a good day for sowing carrot seed. The crop is usually from four to five hundred bushels to the acre. There is not a more profitable crop for feeding stock, raised in the N. England States, than the carrot, where the soil suits the crop; with a little more labor, you will get as many bushels of a much richer vegetable than the potatoe. One experiment has been made, by putting six cows into the stalls in December, and feeding five with corn-meal and hay, and one with corn-meal and carrots, and when slaughtered, the one fed with carrots was pronounced the fattest and handsomest beef. They are equally good for milch cows, increasing the quantity, and adding color and richness of flavor to the butter, but little if any, surpassed by the best pasturing. They can be profitably used in many other ways by a farmer."—*Ib.*

On Pruning Orchards.

There is no branch of the management of orchards less understood, or more unskilfully performed, than the operation of pruning; a belief of its necessity is so general, that even the most careless will seldom omit it—such, however, is the want of skill in many of the operators, that total neglect would be less prejudical, than their preformance of it. If judiciously done, pruning promotes health and early fruitfulness: and will continue a tree in vigor, long after the common period of its duration. Nothing has contributed more to the imperfect knowledge of this operation, than the wordy and unintelligible systems which have been published respecting it; in a mere practical system, it is unnecessary to lay much stress on *wood branches* and *fruit branches*; which, however well under-

stood by an observing, intelligent gardener, can scarcely be comprehended by the laborer, employed in the business of pruning an orchard—from the rapidity of vegetation, which is generally ascribed to the nature of our climate, excessive pruning is very apt to generate an infinite number of suckers from the limbs of apple trees; which, if suffered to grow are more injurious to the production of fruit, than the woody branches which are removed: our great heat and dry atmosphere, render pruning less necessary here than in England, whence we derive most of our instruction on this point. A good general rule is, never to shorten the branches, unless to improve the figure of the tree; and then to take them off at the separation, very close, so that the wound may heal well and soon: the branches should shoot as much as possible in increasing distances, as they proceed from the common centre, inclining a little upwards, by which means the sap will be more evenly impelled, and better distributed; the ranges should not approach too near to each other; for the admission of the rays of the sun is necessary to the production and perfect maturity of fine flavored fruit—in cutting off a branch, it should be done as close as possible, never leaving a stump, for the bark cannot grow over it, and disease in the wood will inevitably follow. If the wound produced by the separation be very large, cover it with tar or thick paint; if small, fresh cow dung will be the best plaster; I have healed very large wounds from the knawing of calves, horses, and sheep, by a liberal application of this plaster, secured by a bandage of paper or linen.

When trees are much pruned, they are apt to throw out numerous suckers from the boughs in the following summer; these should be rubbed off when they first appear, for they may be easily broken off when young and brittle—cutting is apt to increase their number. Trees differ much in their form, and require very different treatment in pruning; it may not be necessary in our warm climate to trim quite as close as in England, but great care should be observed to take off every limb which crosses another, or is likely so to do at a future time: those who can conveniently do it, will find a benefit from forming the heads of their trees in the nursery, the year before they remove them—when transplanted, they will thrive more rapidly from not having been pruned at the time of removal, which in some measure exhausts and weakens the tree. I have been latterly in the habit of giving the principal pruning to my orchards, after they have been planted out about five or six years; their growth, with proper cultivation, is then so vigorous, as to permit any natural defects in their forms to be corrected with safety, by free pruning, and forming their branches: the peculiarity of growth which characterizes each kind is then visible, and uniformity of shape may be more easily attained.

Apple trees should be so formed, as to allow a man and horse to pass under them in ploughing; this elevation of the branches, while it protects them from cattle, opens the ground to the salutary influence of the sun, on the crops of grain or grass.

No error is more universal, than an anxiety for early productiveness in an orchard; it is generally obtained at the expense of much eventual profit, and by a great diminution of the size and vigor of the trees; believing early fecundity to be injurious to the vigor and perfection of plants, I am always attentive to pluck from the trees these evidences of early maturity, in the first stages of their existence.

It was a common practice some years since to apply Mr. Forsyth's celebrated composition to large wounds produced by pruning: that novelty, like many others, had its day among us; and finally lost its popularity, from a general belief of its inefficacy—Mr. Forsyth, at a later period, announced as a new discovery, which had been long known in this part of our country, that cow dung and urine, was more efficacious in healing the wounds of trees than his plaster, even in the moist climate of England. In America our winter frosts decompose it, and our summer heats dry it up so completely, as to render it useless for the purposes intended.—*Coxe on Fruit Trees.*

On Ploughing.

As this is the season for using that invaluable instrument, the plough, perhaps it may be well to call the attention of our readers to the subject. There seems to exist quite a diversity of opinion in regard to the proper depth that land should be ploughed. Many, and in our opinion too many, advocate shallow ploughing. "What's the use," say they "of ploughing up the sand and burying up the manure and the soil out of the reach of the plant?" Let us reason together.—What's the use of ploughing at all? Is it not that we may pulverise the soil, and bring it to such a state that the little roots and fibres of the plant may shoot out and gather up whatever they can find to nourish it? Is it not to incorporate the manure and make it of a uniform consistency as it regards quality, &c.

Now the deeper you make the soil the deeper will the roots plunge, and the deeper and more extensively the roots plunge, the more nourishment will they be likely to find, and the less liable will they be to injuries from drought. Plough deep; don't fear burying

the manure so deep that the roots will not find it—they can go as deep as you can by any plough ever made. It is possible you may not realize so good a crop the first year by burying the manure deeply, you will not lose it, the next year you will have deeper soil—and in a short time, your land will of course be near double depth of soil. What makes the intervales and bottom lands so much better than most uplands? Is it not the depth of soil? Aye but nature demands that. Take nature's advice and make yours so. If nature has made a plough of the elements and buried her vegetable matter deep, and made a soil ten times more valuable for it, follow her example. She did not do all at once, neither need you if you are not able. If you think you have not manure sufficient to make such a soil the first year, or must have the benefit immediately, act accordingly, but begin immediately. If you can plough but four inches this year, plough six the next, and increase annually till you get the soil deeper than you can get the point of your plough. We may appear somewhat dogmatical in our advice. But this is of small consequence provided we can dogmatize some into practice, who are now utterly opposed to it. What runs a farm out, as it is called? Is it not shoal ploughing, a scratch over the soil, as if you were afraid of getting out of the reach of the sun and air? We may verily believe this is the principal cause. The remedy must be the reverse course of management.

An agricultural writer on the subject of ploughing says, that the width and depth of the furrows, for general purposes, should be as three to two, or when the furrows are 9 inches broad they should be 6 inches deep, and that where the furrow is cut in this proportion, it will either be turned over, or reclining at an angle of forty-five degrees, and that a field so ploughed will have its ridges longitudinally, or be left in angular ringlets, or drills, but if the furrows, or slices, are much broader, in proportion to their depth, they will be more completely reversed, and the surface left more even, and suitable for after operations. This I believe to be correct, and if the ploughman wishes to plough eight inches deep, the furrows must be twelve inches wide. This is as shallow as our best wheat lands ought to be ploughed, when grass ground is to be broken up. As it is the opinion of many of our best farmers that one deep ploughing for each crop is better than more, it is important that in that operation the furrows should be laid as flat and even as possible, in order to receive the greatest advantage from the decomposing vegetable matter which was upon the surface. This can only be done with the common ploughs now in use, when there is a strong sward, but when we seed with clover, and plough it up after one or two years, the furrows are but partially recovered, and the land left in a poor condition. unless it is to undergo the usual process of summer fallowing, in which case the soil is rendered fine with as little labor as when turned flat at the first ploughing, but much of the fertilizing property of the sward is lost, being exposed to the action of the sun and air, to the detriment of the cultivator. In all cases, when proper ploughs cannot be obtained for turning the furrows flat I would recommend the use of a heavy roller, by which many of the furrows which are left partially turned will be pressed down, and the fertilizing properties of the sward more effectually retained in the soil than would otherwise be.

Wheat.

Last spring we published some suggestions on the late sowing of spring wheat, as a means of saving it from the ravages of a yellow worm which some incorrectly call *weevil* A number of our subscribers tried the experiment, and so far as we have heard, with entire success. A farmer in Orange county told us that he sowed one acre of spring wheat *ten days* later than the rest in the same field. The first sowed was seriously injured, the last not at all. Several, in other towns, made similar statements.

It has been observed, from the first appearance of this insect, that the earliest winter wheat was less injured by its attacks than any other. It is evident therefore, that the time of laying eggs is short. It is probably, soon after the heads make their appearance. Before they are defended by the leaf which encloses them; and when they appear, most probably the husk soon becomes so hard that the insect cannot pierce it to deposit her eggs upon the kernel. We have, then, only to ascertain the time, as exactly as we can, in which the injury is done, and have our winter wheat too forward, and spring wheat not forward enough, for the operations of the insect, and the damage is avoided. At present sow your winter wheat as *early* as you can, and sow your spring wheat as *late* as you can, and give it time to ripen.

Farmers, and all who find either pleasure or profit in any thing made from wheat would be greatly indebted to any etymologist who should make us better acquainted with the character and habits of this destructive insect.—*Vt. Chronicle.*

From the Whig.

Hints to Farmers.

The great scarcity and high price of every food, ought to induce our farmers to spare no pains to raise large crops of corn, potatoes, turneps, buckwheat, &c.

Indian corn ought always to be planted, if possible, in the month of April. Experience has fully proved that the old rule of planting from the first to the tenth of May is a bad one. Early planted corn, fares best in time of drouth, and is much less likely to be injured by frost in the fall.

Cart out your manure and spread it on your corn field. This is much better for the corn, and better for the crop of rye or wheat that ought to follow it, than to allow the manure to remain and rot in the barn yard. It is a very poor plan to manure corn in the hill.

Let your manure be well covered and the ground rolled or harrowed before planting. Take care in tending the corn not to disturb the manure or the sod. Use the plough sparingly and plough shallow; the cultivator is much to be preferred. There is no danger of harrowing too much. Don't hill up the corn; the more flat and even your surface the better.

Always steep your seed before planting, this will make it start sooner and will generally save it from the worms and from birds; if properly done you will not want a scare crow; a week solution of salt petre is very good; but the preparation recommended by the most successful growers of corn is the following.

First pour on your seed corn hot water, nearly ready to boil, and let it soak all night. Then put about a pint of tar and a quart or two of water into an iron pot or dish, and heat and stir it till the tar is thoroughly incorporated with the water, pour this mixture on the corn, having first drained it pretty dry, stir it well together and let it stand an hour or two. Take the corn out of the tar water and roll it in dry ashes, plaster, or dry slacked lime, so that it will plant conveniently.

Plant as soon after ploughing as you can, and always put the corn into moist earth, treading down the hill with the feet or pressing it hard with the hoe. Do not plant very deep. Put six or seven grains in each hill; this will not require more than half a peck per acre of extra seed, which will be repaid more than ten fold, by having the proper number of stalks in every hill. At the first hoeing, let the plants be reduced to the proper number, the least thrifty being pulled up. The number that ought to remain in each hill, will depend on the soil and on the kind of corn raised. Four are not too many for low growing corn, in ground well manured.

Do not top or strip your corn; as soon as the grains begin to set hard, and while the stalk is still green, say the first of September or even earlier, pull or cut it all up by the roots. Tye it up in small shocks or stacks and it will ripen better than if topped, and it will all make excellent fodder. All the corn stalks should be fed out in the early part of winter in the barn yard, they make good manure, or what perhaps is still better, cut up your stalks in a cutting box and steam or soak them before feeding. By manuring your corn ground well with coarse manure well ploughed in, and cutting up your stalks early, you may have good crops of corn, winter grain and grass. You will get the most benefit from your manure and your fields will be cleaner of weeds.

AGRICULTURIST.

Deerfield, March 27, 1837.

From the Cultivator.

Farm Accounts—Products of a Farm.

J. BUEL, ESQ.

Sir,—Having been a constant reader of your valuable paper from its commencement, and having been amused and instructed from the perusal of it, especially from original communications upon practical farming, statements of products, &c.; and having heard a gentleman in an agricultural address in this county some years since say, "It is time that farmers leave off guessing, and attend to their business systematically, that they may know their income," &c.—I have once or twice since, began to keep an account of the products of my farm, but have failed to go through the year. This year I began early in the season, and have kept an account of the principal articles produced, and their estimate at about the common market price in this vicinity. But as I am a Yankee, I must be allowed the privilege of "guessing" at a part. The reason of my communicating to you the result of my labors, is not that I expect that I have outdone every body else, for I believe that many farmers in this region, have produced more from the same number of acres than I have, as some of my crops were very poor; my orchard and a few thousand silk worms, almost wholly failed. But I have thought that the publication of the products of farms might influence some of those who occupy land, and farm by guess, to use more exertion; and may probably induce some young men to turn their minds from the fancied pains of speculation to the slow, but substantial, income of good farming. And in this way, and no other, can we compare our own advantages of location with our brethren at a distance. And since there is such an itching desire for removal and the praries of the west, it would be well for many of them to know that they are well situated.

My farm contains about 150 acres of land. I improve about 100 acres, the remainder is in wood; some of the land has been cleared of wood thirty-five years, and farmed without

much system for a number of years; now some of it is in tolerable cultivation, though very little in a high state. I shall now proceed to give the items of produce and their estimate. I am thus particular, that every reader may see for himself, and imitate the example if he thinks proper, and communicate the same for the benefit of others.

1,084 lbs. of maple sugar, at $10 per cwt.	$108 80
Mulberry trees sold for cash,	143 75
35 lbs. of wool, at 50 cents per lb.	17 50
4 veal calves, at $2 50 per head.	10 00
1 killed at four days old, skin sold for	50
5 lambs raised, at $2 per head,	10 00
5 calves raised, $4 per head,	20 00
6 pigs sold young, at $1 per head,	6 00
8 pigs raised, at $3 per head,	24 00
50 tons of hay, at $7 per ton,	350 00
1 ton of hemp,	11 72
16 bushels of peas, at $1 per bushel,	16 00
59 bushels of rye, at $1 per bushel,	59 00
67½ bushels of barley, at 62½ cents per bushel,	42 81
70 bushels of wheat, at $1 50 per bushel,	105 00
Flax in the bundle and seed,	67 66
80 bushels of apples, at 25 cents per bushel,	20 00
1,535½ lbs. of cheese, at $8 per cwt.	122 82
240 bushels of potatoes, at 25 cents per bushel,	70 00
200 bush. of ruta baga turneps, at 25 cts. per bu.	50 00
200 bush. of ears of poor corn, at 25 cts. per bush.	50 00
2 bushels of white beans, at $1 50 per bushel,	3 00
3 bushels of onions, at 75 cents per bushel,	2 25
200 bushels of oats, at 50 cents per bushel,	100 00
1,462 lbs. of pork, at $7 per cwt.	103 74
105½ lbs. of butter, sold at $18 per cwt.	19 54
Growth of ten heads of two years old cattle,	80 00
Growth of five heads year old cattle,	25 00
Total,	$1,639 09

I would remark, that my young cattle, with the exception of one, has pastured on the commons; but as an offset, I have pastured a span of horses, till about the 10th of June, three cows and thirteen sheep all summer, two pair of oxen and one cow about one month; all the butter and cheese eaten in the family, the butter on hand, garden vegetables, &c. not brought into this account. And I consider my mulberry yard worth as much as it was last spring before the sale of trees. I am aware that various opinions will be manifested by those who peruse this statement. Some will think it falls short of what it ought to be, while others may think it extravagantly large. The fact is, my wheat crop was no more than half a good crop, and my corn almost wholly lost, my beans, onions and peas poor, flax not so good as usual. The loss of my wheat and corn, I attribute in a great measure to bad management. My wheat ground fitted too wet, my seed corn bad and planted too late, which left it wholly exposed to the early frosts.

There are other substantial reasons why farmers ought to know the value of their products; in this way they may ascertain the value of their lands. It is commonly supposed that land is worth as much as money, therefore, if your land will pay for cultivating and the interest, that is the real value of your land. For instance, you value your farm at sixty dollars per acre, it must pay the cultivation and repairs, and produce an income of seven per cent. Another reason is, that we may know what branches of farming are the most profitable. Dairymen commonly know very nearly their produce, while those who have tillage of various kinds, are ignorant of the value of their products, and consequently suppose their neighbors are going ahead of them, and they lose no time in converting a good tillage farm to grass wholly, either for the dairy or sheep entire. I would query, is not this one reason of the scarcity and high price of bread stuffs? And under existing circumstances, whether we had not better put the best of our tillage lands in high cultivation, and pursue the culture of wheat, corn, roots, &c. which will support our cows, and our sheep, and our families, while our cows, sheep, and young cattle will support our farms?

ASA CARTER.

Champion, Jefferson Co. N. Y. Dec, 1836.

Communicated.

Cotton Seed Oil.

Among the many discoveries and improvements in the arts of the present age, is that of manufacturing oil from the cotton seed as a substitute for sperm oil. The seed is first hulled and then pressed out, and the oil is then clarified. This oil has been tested in Philadelphia and Burlington, and found to be superior in more than one respect, to the sperm oil. It burns with a clear brilliant light, without odor, and is less affected by cold than the oils generally used. It has also been found to be good for paint oil. The oil bran is very valuable for feed, and thought to be equal to the linseed bran or oil cake. A charter has been obtained from the Legislature of New Jersey, and it is expected that an establishment for manufacturing the oil will go into operation the ensuing summer, either in Burlington or Gloucester county.

Burlington Co. N. J., April 6, 1837.

Raising Sweet Potatoes.

To the Editor of the Farmers' Cabinet.

My method of raising sweet potatoes is, (and the best method I have ever found,) in ridges instead of hills. But I do not plant the potatoes. I put them in hot beds and sprout them, then set the sprouts in the ridges about fifteen or sixteen inches apart. There is not only a very great saving of seed, but a much greater yield. In a few days after you have taken up the first sprouts, you will have as many more from the same bed, and then again in a few days, as many more. I am persuaded that those who try this method, will prefer it to planting them in hills.

HENRY A. THOMPSON.

Monmouth county, N. J.

Important to Farmers.

The New York Sun, on the authority of an esteemed correspondent, gives the subjoined information, believing that it must be highly useful to farmers, and would perhaps prove a benefit to the corn market generally, were it adopted. Hundreds of thousands of bushels of corn are annually destroyed by the birds, (particularly the black bird and crow,) which might be preserved by a very simple method. The birds pull it up the moment it appears above ground, and eat the seed. In order to prevent this destruction, the farmer should first soak the seed well in salt water, until the chit is just on the eve of bursting through, then turn it into a vessel of tar, made soft by warming, and stir thoroughly, until every grain is well coated, when it may be separated for planting. Work in some pounded plaster, when planting, and this seed the birds will not disturb; it will come up rank and fine, and pay well for the trouble. If the corn is not soaked well before coating with tar, it will not be apt to come up, as the tar will naturally prevent the necessary moisture from penetrating through it. This has been tried by farmers who never could get a good crop of corn in any other way, and found it to succeed admirably.— *Farmer and Gardener.*

Tenacity of the Apple Tree for Life.

A medical gentleman, who has recently made a tour through several of the western states, related to us the following singular instance, illustrative of the power of the apple tree to support life out of the ground.

In the month of Octr., 1835, Mr. *Alex. M'Coy*, living near Columbus, Ohio, bought of a nurseryman on Long Island, 100 apple trees; they were then packed up, shipped via the great Erie canal and the lakes, to Cleaveland, Ohio. On arriving at that point, the canal being frozen up, the trees remained there until the latter end of March, 1836, when they were sent to *Columbus*, Ohio, by the canal: they reached the latter place in the month of April, following. As it was presumed that the trees, which had now been out of the ground six months, were all dead, or their vital powers so far destroyed as to render their vegetating not only doubtful, but, as was supposed, hopeless, the owner refused to receive them. In this situation they remanied till May, when the agent of the canal forwarded them to their proprietor, who planted them out in his cornfield, rich limestone land, and tended them with his corn. At the period of planting, which was seven months from the time of their being taken up, the trees were partially in leaf, and notwithstanding all of these disadvantageous circumstances, 98 of them lived, only 2 of the hundred dying.

Lime, Ashes and Plaster for Corn.

Our readers will find below an account of a large crop of corn raised by Mr. Semmes, of Maryland, the past season. The whole process pursued in the improvement of this land is not detailed, but we are led to understand, that the great product is in a considerable degree to be ascribed to the use of a mixture of plaster and leached ashes. Having ascertained the benefical effects of this manure by repeated experiments, we feel ourselves well warranted in recommending the use of it to such of our readers as can procure it. Let leached ashes and plaster be mixed, in the proportion of two bushels of ashes to one of plaster, and let a small handful of the mixture be dropped in each hill of corn, either before or after the corn is dropped, and covered with it, and the effect will be surprising, especially if a few rows are left in the field to which the manure is not applied, the difference will be visible and great throughout the season, and we doubt whether this mode of manuring corn in the hill, is not the cheapest, in proportion to the profit, of any which can be applied. We beg our readers to make the experiment, and satisfy themselves. We have found unleached ashes equally good, when mixed with plaster in the same proportion. We have also found a similar application of slacked lime to each hill, highly advantageous, and would therefore recommend it, especially to those who cannot procure the plaster. The following is the account referred to.

Extract from the Journal of a Gentleman who traveled for Agricultural information.

Nov. 1*st*, 1834.—Visited Mr. John Semmes, of St. Mary's county, Maryland, who informs us that his great crop of corn averaged upwards of twenty-five barrels the acre. Respectable judges of the county were appointed to ascertain the quantity of corn, and after having accurately surveyed one acre, the corn was gathered and measured. The farm is uncommonly hilly.

Process.—He prepares his ground by clover, the ground laid off from five by two and a half to three feet. The corn then dropped, three grains in the check, followed by persons who drop on the corn, or even if they are in advance of the corn-droppers, a handful of two-thirds slacked ashes, and one-third plaster, mixed before it is dropped. Should the corn not come up regularly, he drops one or two seeds more, as may be necessary. He gathers his seed corn from the field before gathering the crop, so as to have a choice of ears. He plants from the 1st to the 10th of April, and ploughs four inches deep.— *Tennessee Farmer.*

Mangel Wurtzel or Field Beet.

A few remarks on the culture of this crop, now the season has arrived for commencing it, may not be unacceptable.

THE SOIL

Is best when a clayey loam; but any soil if ploughed deep and well manured will produce good crops, as the principal requisite is depth and fertility.

THE SOWING

Should be done in the early part of May, although it is frequently performed later. Where the ground is very moist it should be sown upon ridges; but in ordinary cases, it succeeds best when planted in drills without ridging. T. and H. Little, of Newbury Mass. who raised upwards of thirty-three tons to one acre, prepared the ground and sowed in the following manner:—After one deep ploughing, the ground was furrowed two and a half feet apart, and the manure put into the furrows, and covered with the plough; a roller was then passed on the top of the ridge thus formed, to pulverize the lumps, level the surface, and press the soil and manure together. The seed were then dibbled with the finger over the manure, about six or eight inches apart. John Hare Powel sowed his crop thus:—"The holes for the seeds were made by a wheel, containing pegs in its circumference, which penetrated the ground about an inch, leaving intervals of four inches; the rows were made two feet asunder; two capsules [or berries] were dropped in each hole; the wheel of a common barrow was then passed over them, thus compressing the earth, and leaving a slight rut for the retention of moisture,"

THE QUANTITY OF SEED

Per acre should be about four pounds; for although this is a large allowance, the expense is small when compared with the insurance of an even crop. Great care should be taken that the seed of the common red and white beet is not mixed with it. Unless the ground be very moist, the seed, before sowing, should be soaked about 48 hours in soft water. After the plants have come up, they should be thinned to about eight inches distance from each other in the rows.

THE AFTER CULTURE

Consists principally in a free use of the cultivator, and in keeping the land perfectly clear of weeds. Col. Powel ascribes his success in the culture of this crop, to deep and thorough ploughing; to the use of cultivators, which complete the production of fine tilth; to the destruction of weeds on their first appearance; to leaving the smallest space upon which a horse can walk between the rows; and above all, *to planting the seeds of a proper kind upon a surface which is kept perfectly flat.* Gideon B. Smith of Baltimore, in 1832, planted one-sixth of an acre which had been intended for early corn, and had been manured the previous year. The seed were sown in drills two feet asunder, and eight inches apart in the drills, and covered as corn. When the plants were up, a weeding hoe was passed over the field, and afterwards a small plough run through it twice, clearing out the weeds with a hoe. This was all the cultivation it had; and the whole labor, including the original preparation of the ground, did not exceed two full days work for one man. The crop was upwards of seventy five bushels; and might have been much larger, as there were many vacant places of six or eight feet length in the rows; and other places where the roots were injured by being crowded. The soil was a fair medium mould, a mixture of clay, sand, and vegetable matter.*

THE PRODUCE PER ACRE,

Under ordinary culture, may be estimated at from six hundred to a thousand bushels. Where, however, the ground is ploughed very deep, well manured, and well cultivated, much larger crops have been obtained, of which a few instances are here given.

Gideon Foster, of Charleston, Middlesex county, Mass., raised forty-three tons to the acre.

The premium crop of Tristram and Henry Little of Newbury, Mass., was 33 tons, 10 cwt. and 14 lbs. to an acre, or *more than fourteen hundred bushels.*

Col. Powel inclosed certificates to the President of the Pennsylvania Agricultural Society, showing that *sixteen hundred and thirty four bushels* of mangel wurtzel, weighing seventy-eight thousand four hundred and forty-eight pounds, were produced upon an acre and fourteen perches; and a part of the same field containing thirteen contiguous rows, produced at the rate of *two thousand and sixty five bushels per acre*, weighing 44 tons, 5 cwt. and 27 lbs.

Henry Thompson of Baltimore, raised in 1833, on less than one-eleventh of an acre, 5 tons, 14 cwt. and 3 qrs., or at the rate af about *sixty tons to the acre.*

In good land, single roots of the mangel wurtzel often weigh nine or ten pounds, and sometimes even *fourteen or fifteen pounds each;* and J. A. Kenrick of Newtown, Mass., raised in 1833, a single root weighing no less than *thirty-six pounds.*†

USES.

This root is admirably adapted for feeding nearly all domestic animals. It is the best of known food for store swine; and swine fatten

*Am. Far. vol. 15, p. 25. † N. E. Farmer.

upon it, yielding firm pork of good flavor, when fed to them raw, equally well as upon boiled potatoes, by which the fuel and labor of boiling is saved. Col. Powel says, "My neat cattle prefer mangel wurtzel to any other root which I have offered to them. I have found its effects in producing large secretions of *good* milk, very great. * * * Its application as food for sheep is not the least important of its uses. Ewes yean usually at the season when grass cannot be supplied. The health of themselves and the thrift of their lambs, essentially depend upon succulent food being had. I am inclined to think that no small portion of the success which English breeders have met, is to be ascribed to the large stores of roots, which they always have at command."

In autumn, when the quantity of milk from cows often diminishes greatly, it may be restored by cutting the leaves of this plant and feeding them. In some instances the quantity has been doubled by this means. The leaves soon grow again, and may be cut every fortnight.* Cows fed twice a day in winter, upon 20 lbs. of the roots at a time, together with 4 or 5 pounds of hay or chopped straw, will, it is asserted, give as much milk as in summer.

In some instances when fed to cattle and sheep, this root is said to have produced *scouring*. This may be owing either to the soil adhering to the roots when eaten, or to the sudden commencement of feeding on them exclusively, instead of their being mixed with a proper proportion of dry food, such as hay, meal, or chopped straw.

This crop has several important advantages in its cultivation. It is little affected by changes of the weather; suffers little from drouth; thrives in moist soils; is not attacked by any insect; and prepares the ground well for succeeding crops. The roots may be kept sound and fresh for eight or ten months.

Farmers who value their land, would find it greatly to their interest to direct their attention more to the cultivation of this crop. It has been found that two tons of mangel wurtzel are equal to one ton of hay for feeding milch cows; and that three tons are equal to one of hay for feeding cattle in general. Any one may readily calculate from this, how much greater a number of cattle may be supported by this means, from a given quantity of land, than by the usual mode of feeding them exclusively on grass and hay. Supposing for instance that thirty tons of mangel wurtzel are the average product per acre, then we shall have an amount from one acre alone equal to from ten to fifteen tons of hay. Now if a method should be devised for raising this amount of hay from an acre, it would excite universal attention and inquiry; but this crop, although possessing advantages not less important, is almost entirely neglected.

* It is probable however that this production of new leaves is in a greater or less degree, at the expense of the root, although very large crops have been raised where this course has been pursued.

Forcing Cuttings.

As the season of setting cuttings of the Morus multicaulus is approaching, the following letter from Mr. John Hopkinson, of Hopkinsville, Ohio, to Mr. David S. Porter, of Cincinnati, containing directions for forcing them, cannot fail of being acceptable to the cultivators of this valuable plant. Not having tried the method, we cannot speak of it experimentally; but have no doubt of its utility in cases where it is desirable to produce a large growth the first season.

"About the 10th of March, if the weather is suitable, I make what we call a hot-bed, by some termed a forcing border, large enough to allow 3 square inches for every cutting I intended to set. The bed is made in the usual manner, by filling up the bottom with fresh horse manure, 18 inches or 2 feet deep. I then procure good sods, (similar to those used for sodding down yards,) sufficient to cover the surface of my hot-bed. These sods I cut into pieces three inches square, and insert a cutting in the middle of each, leaving barely a bud out. I then place these sods completely together on the hot-bed, and sprinkle over the whole a light covering of finely pulverised loam. The manure should be wet with hot water before the sods are put on; the bed should likewise be watered with warm water, every other day, and kept covered with a good thick covering of straw, or some other matter in the night, and cold days.

In this manner, I can have cuttings from 4 to 8 inches high, by the usual time of setting out, say the 1st of May. I then take the cuttings, and the sod with them, and transplant them into the nursery, taking care to water for a few days after they are transplanted."

Tennessee Silk.

We have been furnished with several pieces of silk grown and manufactured by Miss Easterly, of Cocke county in this State. This young lady merits no small share of applause for her ingenuity, perseverance and industry in thus furnishing to the country demonstrative proof of the superior adaptation of East Tennessee to the silk culture, a branch of business which, we have no doubt, is destined, at no distant period, to be ranked amongst our most profitable employments, and to confer on the country, and especially on the laboring class of females, incalculable benefits. The specimens of silk left with us

are, we believe, the produce of the wild mulberry, reeled, spun and woven by Miss Easterly on the implements in common use, for cloth of other materials, yet notwithstanding these great disadvantages, they are highly creditable to the ingenuity and industry of the fair manufacturer, and prove conclusively, that under more favorable circumstances, she would be amply able to compete with the foreign manufacturer both in the beauty, strength and texture of the products of the loom. We are happy to learn that a zeal for the extension of the silk culture is rapidly diffusing itself throughout East Tennessee, authorizing a well founded belief that in less than five years the product of East Tennessee silk will form an item in the list of her productions by no means inconsiderable. In addition to some public-spirited individuals who, from motives of patriotism and of philanthropy, are extensively engaged in the cultivation of the White and Chinese Mulberries, we hear of a great number of individuals who are engaged in the same business on a smaller scale, solely with a view to individual profit. All have our best wishes for their complete success, to which we shall endeavor to render the Farmer a useful auxiliary.—*Tennessee Farmer.*

Canada Corn.

We consider it proper at this time to call the attention of the farmers in general—and particularly those who have suffered a loss of their crops from the unfavorableness of the past season—to the yellow early Canada corn, which has been cultivated here with such success, as to leave little room for doubt as to its superiority in evercoming the difficulties to be encountered in our ever-varying climate. Five acres of this corn was raised the past season, by Mr. Hatch, of the Poughkeepsie Hotel, on his farm two miles below the village. It was planted the first of June last, has yielded sixty bushels to the acre, perfectly sound and in as fine condition as any we have ever seen. We understand that it was perfectly ripe by the 10th of September, and will generally come to maturity in about ninety days. The land on which it was raised was in good condition. Mr. Hatch has already been applied to by 54 of our first farmers, for one hundred and fifty-seven bushels of this corn for seed next year.—*Poughkeepsie Eagle.*

It may not be in your power to excel many people in riches, honors, or abilities, but you may excel thousands in goodness of heart. Hither turn your ambition. Here is an object worthy of it.

Price of Flour—Comparative Table.

We subjoin from the Philadelphia Pennsylvanian, a highly interesting table, giving a comparative view of the price of flour in that city for the three first months in the year from 1796 to the present time. It possesses peculiar interest at the present moment, showing as it does the great and rapid fluctuations of the market, and stating the fact that, at periods when labor did not obtain more than half the price it now commands, flour has sold at much higher prices than those which are now complained of. In 1796, for instance, it sold as high as fifteen dollars a barrel.

Price of Flour for the three first months of the year, from 1796 *to* 1837, *inclusive.*

Years.	*January.*	*February.*	*March.*
1796	$ 12 00	13 50	15 00
1797	10 00	10 00	10 00
1798	8 50	8 50	8 50
1799	9 50	9 50	9 25
1800 } 1801 }	11 50	11 25	11 50
1802	7 00	7 00	7 00
1803	6 50	6 50	6 50
1804	7 50	7 50	7 00
1805	11 00	12 25	13 00
1806	7 50	7 50	7 00
1807	7 50	7 50	7 50
1808 (Embargo)	6 00	5 75	5 50
1809 do.	5 50	7 00	7 50
1810 (In July and August this year $11 and 12.)	7 75	8 00	8 25
1811	11 00	10 50	10 50
1812 (War)	10 50	10 12½	9 75
1813 do.	11 00	10 00	9 50
1814 do.	9 25	8 25	8 00
1815 do.	8 00	8 00	7 75
1816	9 00	9 00	8 00
1817	13 50	13 75	14 25
1818	10 00	10 75	10 50
1819	9 00	8 75	8 25
1820	6 00	5 50	5 00
1821	4 00	4 00	3 75
1822	6 25	6 25	6 25
1823	7 00	6 75	7 00
1824	6 00	6 00	6 12
1825	4 87	5 12	5 12
1826	4 75	4 62	4 50
1827	5 75	6 00	5 75
1828	5 00	4 87	4 75
1829	8 50	8 25	8 00
1830	4 62	4 50	4 50
1831	6 12	6 25	7 00
1832	5 50	5 50	5 50
1833	5 75	5 00	5 50
1834	5 75	5 00	5 87
1835	4 87	5 00	5 00
1836	6 50	6 62	6 75
1837	11 00	11 00	10 75

PRICES CURRENT.

ARTICLES.	Philadelphia, April 11.	Baltimore. April 7.	New York, April 10.	Boston, April 8.
Beans, white, per bush.	$1 50—1 62	1 62—1 75	... ...	2 50—3 00
Beef, mess, new, per bbl.	14 00–15 00	...	13 00–15 00	15 50–16 00
Bacon, western, per lb.	9½— 10½	... ...	...	...
Butter, extra, per tub	16— 17	...	18— 20	18 — 22
Butter, fresh, per lb. (market,)	...	25— 37½	25— 37	28— 31
Hams, per lb.	12— 13	...	13½- 14	14— 15
Hog's Lard, per lb.	11— 12	16— 17	9— 11	13— 15
Cheese, American, per lb.	10— 11	10— 11	10— 12	10— 12
Beeswax, yellow, per lb.	27— 28	28—	27— 28	28— 30
Beeswax, white,	...	40—	38— 40	31— 33
Bristles, American,	42— 65	...	25— 65	...
Flax, American,	8½— 9	...	8½— 9½	9— 12
Flour, best, per bbl.	9 25—9 50	9 00—9 25	9 00—9 25	11 00–11 50
GRAIN—Wheat, per bush. Penna.	1 95—2 05	1 75—2 05	...	...
do. Maryland,	1 70—1 90	1 40—1 85	... ...	...
Rye, per bushel,	1 20—	1 12—1 25	—1 40	1 45—1 75
Corn, do.	90— 95	85— 91	90—1 05	1 00—1 10
Oats, do.	50— 53	55— 56	45— 50	65— 70
Barley, do. Penn.	...	...	1 00—1 06	1 10—1 20
Peas do.	1 00—1 25	1 12½—	1 00—	...
HAY, Timothy, per 100 lbs.	1 05—1 20	...	...	...
Meadow Grass,	...	...	... ...	...
Hemp, American dry rot, ton,	175 00–	...	130 00–140	...
Hops, first sort, 1836, lb.	9½— 10	— 16	8— 9	8— 9
Plaster Paris, per ton,	4 50—4 75	4 25—4 75	...	3 75—
SEEDS—Cloverseed, per bushel,	...	8 25—8 50	...	...
Flaxseed, rough, do.	1 65—1 70	1 60—1 65	... ...	...
Timothy,	2 25—2 75	...	...	2 87—3 12
Tallow, per lb.	11— 12	— 8½	— 10	11— 13
WOOL—Saxony, fleece, per lb.	60— 73	50— 60	70— 75	70— 75
Merino,	58— 64	45— 50	50— 65	65— 70
1-4 and common,	40— 44	35— 38	35— 45	45— 50

The Markets have been for some time past, and still continue in a very unsettled state. The general tendency is downwards. Flour has declined considerably from former prices, and is still going down.

The wagon price of Flour per barrel, is rather less than the prices above quoted.

20,000 Morus Multicaulis Trees.

We learn that E. P. ROBERTS, editor of the Farmer and Gardener, Baltimore, has received the first parcel of an invoice of 20,000 Morus Multicaulis Trees, which will be disposed of on pleasing terms for cash. They are warranted genuine, and if taken in their original packages, bargains may be expected.

Sugar Beet Seed Agency

For the sale of the choice Sugar Beet Seed, imported from France; also, the Report of the Agent of the "Beet Sugar Society," on making Sugar from the Sugar Beet, and other information relating thereto, at No. 46 Arcade, North end of west Avenue. Entrance from Market street and from Chesnut street, between Sixth and Seventh streets.

Farmers and others interested in promoting the growing of the Sugar Beet and making of Beet Sugar, can obtain the Seed and Report at a very low price at the Agency, which has been opened solely for promoting the object, by usefully disseminating the Seed and information. Orders from the country, directed to the "SUGAR BEET SEED AGENCY," Philadelphia, will be attended to.

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